



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,854	06/21/2001	Anthony D. Minervini	328 P 609	6234

7590 03/01/2006

ANTHONY G. SITKO
MARSHALL, GERSTEIN & BORUN LLP
6300 SEARS TOWER
233 S. WACKER DRIVE
CHICAGO, IL 60606-6357

EXAMINER

CHAMBLISS, ALONZO

ART UNIT PAPER NUMBER

2814

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,854

Applicant(s)

MINERVINI, ANTHONY D.

Examiner

Alonzo Chambliss

Art Unit

2814

AM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 31-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 12-19, 24-27 and 30 is/are rejected.
- 7) ☒ Claim(s) 2-11, 20-23, 28, 29 and 39-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/3/01, 2/21/02, 7/30/02, and 4/14/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-30 and 39-42 in the reply filed on 12/19/05 is acknowledged. The traversal is on the ground(s) that it would not be a burden for the examiner to search both process and product. This is not found unpersuasive because it would be burden on the examiner to search both process and product since examining the product would not require searching a first and second conductive adhesives joining a spacer to the cover and board. However, the species restriction is withdrawn. Therefore, claims 31-38 have been withdrawn from consideration and claims 1-30 and 39-42 are pending in the application.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character " 16 " has been used to designate both cover and amplifier. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of

any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: " MINIATURE SILICON CONDENSER MICROPHONE ".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. In claim 30, the phrase " a cover comprising a second conductive layer forming at least a portion of the inner lining " is vague and indefinite since not clear from the claim how the second conductive layer forms a portion of the inner lining when the board comprises a portion of the inner lining.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 12-19, 26, 27, and 30 insofar as being definite, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ohishi et al. (US 5,459,368).

With respect to Claims 1 and 27, Ohishi teaches printed circuit board (i.e. the combination of 8,10-12, and14) comprising a plurality of layers 8, 10-12, and 14. At least one layer (i.e. any one of 10-12) comprising a conductive material and at least one layer 8 comprising an insulating material. A cover 13 comprising a conductive layer (i.e. shielding material), the printed circuit board (i.e. the combination of 8,10-12, and14), and the cover 13 forming at least a portion of a housing. The housing 8 and 10-14 comprising an aperture 9 for receiving a signal and an inner lining for providing a shield against an electromagnetic interference, the conductive layer and the at least one layer 10-12 of a conductive material. A transducer unit 1, 4 mounted within the housing 8 and 10-14 (see col. 4 lines 35-67 and col. 5 lines 1-67; all figures).

With respect to Claim 12, Ohishi teaches the conductive material comprises copper (see col. 5 lines 40-47).

With respect to Claim 13, Ohishi teaches wherein the printed stiff major panel comprises a plurality of layers of a conductive of a conductive material and a plurality of layers of an insulating material (see col. 4 lines 35-57).

With respect to Claim 14, Ohishi teaches wherein one of the plurality of layers of a conductive material comprises a pair of lead pads for electrical connection to the transducer unit (see all figures).

With respect to Claim 15, Ohishi teaches wherein one of the plurality of layers of a conductive material provides a first electrical ground plane (see col. 4 lines 35-57).

With respect to Claim 16, Ohishi teaches wherein one of the plurality of layers of a conductive material provides a second electrical ground plane (see col. 4 lines 35-57).

With respect to Claim 17, Ohishi teaches wherein the first and second ground planes are electrically connected to the pair of leads pads (see col. 4 lines 35-57).

With respect to Claim 18, Ohishi teaches wherein one of the plurality of layers of a conductive material comprises a pair of connectors for electrical connection to an external transducer (see col. 4 lines 35-57).

With respect to Claim 19, Ohishi teaches a transducer unit 1, 4 and a housing substantially covering the bottom of the transducer unit 1, 4 and providing protection against an electromagnetic interference, the housing comprising a first layer of a non-conductive material and a second layer of a conductive material substantially covering the first layer, the second layer substantially forming an inner lining of the housing, the housing further comprising an aperture 9 for receiving a signal into the housing (see col. 4 lines 35-67 and col. 5 lines 1-67; all figures).

With respect to Claim 30, Ohishi teaches wherein an inner lining for providing a shield from an electromagnetic interference base on the metal characteristics. The inner lining comprising an aperture 9 adapted for receiving an acoustic signal. A board comprising a first insulating layer and a first conductive layer, wherein the first conductive layer forms at least a portion of the inner lining. A cover 13 comprising a

second conductive layer forming (i.e. electrically connected) at least a portion of the inner lining (see col. 4 lines 35-67 and col. 5 lines 1-67; all figures).

9. Claims 24-26 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Mullenborn et al. (US 6,522,762).

With respect to Claims 24, Mullenborn teaches a substrate 2 including an upper surface having a recess 11 formed therein. The transducer unit 1 is attached to the upper surface of the substrate 2 overlapping at least a portion of the recess 11 wherein a back volume of the transducer unit is formed between the transducer unit 1 and the substrate 2. A cover placed over the transducer unit 1, wherein the cover 5 including an aperture 4 (see col. 5 lines 35-50; see all figures).

With respect to Claims 25 and 26, Mullenborn teaches a transducer unit 1 and a substrate 2 including an upper surface for supporting the transducer unit 1. A cover 5 placed over a portion of the substrate 2, the cover 5 comprising an aperture 4 and an inner surface, a portion of the inner surface comprising a metallic material for shielding and receiving a signal (i.e. since the cover is completely made of an conductive material) from the transducer unit 1 while providing a shielding from an interference signal (see col. 5 lines 35-50; see all figures).

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct

from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claim 24 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 11/112,043. Although the conflicting claims are not identical, they are not patentably distinct from each other because the application and the copending application both recite a cover with an aperture with a transducer unit overlapping a recess form in a substrate.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

12. Claims 2-11, 20-23, 28, 29, 39, and 40-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowance subject matter: the prior art of record does not teach or suggest the combination of a spacer

member between the printed circuit board and the cover, the spacer member cooperating with the printed circuit board and the cover to form the housing, the spacer member comprising a sidewall at least partially covered by a conductive material, the conductive material provides a portion of the inner lining the other limitations in claim 2.

An environmental barrier located within the aperture in claim 5.

A third layer of a non-conductive material, the third layer substantially covering the aperture for providing an environmental barrier in claim 20.

A recess wherein a back volume of the transducer unit is formed between the transducer unit and the substrate. A cover placed over the transducer unit, the cover including an aperture in claim 24.

A cover comprising an aperture and an inner surface, a portion of the inner surface comprising a metallic material for shielding the transducer unit from an interference signal in claims 25 and 26.

A cover comprising a second insulating layer and a second conductive layer, a portion of the second conductive exposed to conductive spacer and electrically connected to a ground via the conductive spacer for shielding the transducer from an interference signal in claims 28 and 29.

A printed circuit board includes an upper surface having a recess formed therein, the transducer unit attached to the upper surface of the board overlapping at least a portion of the recess wherein a back volume of the transducer unit is formed between the transducer unit and the board in claim 41.

A printed circuit board includes a pocket formed there through, the transducer unit attached to the printed circuit board and overlapping at least a portion of the pocket wherein a back volume of the transducer unit is formed by cooperation of the transducer unit and the pocket in claim 42.

The prior art made of record and not relied upon is cited primarily to show the product of the instant invention.

Conclusion

13. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (571) 272-1927.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system see <http://pair-dkect.uspto.gov>. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC_Support@uspto.gov.

Application/Control Number: 09/886,854
Art Unit: 2814

Page 10

A handwritten signature in black ink, appearing to read "Alonzo Chambliss". The signature is fluid and cursive, with the first name "Alonzo" and last name "Chambliss" clearly distinguishable.

Alonzo Chambliss
Primary Patent Examiner
Art Unit 2814

AC/February 25, 2006